

IN THE CLAIMS:

1-57. (cancelled)

58. (previously amended) An indicium for placement on a workpiece for use in determining whether the workpiece is valid, comprising:

a set of one or more markings corresponding to a string that is based upon, at least in part, intrinsic physical characteristics of at least one portion of said workpiece, said physical characteristics including one or more images of surface topographical appearance of said at least one portion of said workpiece resulting when the at least one portion of said workpiece is illuminated with electromagnetic radiation from different illumination positions relative to said at least one portion,

the string being further based upon, at least in part, a numerical hash value derived from the one or more images, the value being generated by a process that includes extracting from the one or more images a first image portion scaling the first image portion to generate a scaled image portion, averaging pixel value of the scaled image portion to generate a first filtered image, extracting from the first filtered image a second image portion, averaging pixel values of the second image portion to generate a second filtered image, and subtracting corresponding pixel value of the second filtered image from the second image portion to generate a third filtered image.

59-60. (cancelled)

61. (previously amended) Apparatus for use in generating a string for use in determining whether a workpiece is valid, comprising:

an electromagnetic radiation source for illuminating at least one portion of the workpiece with electromagnetic radiation from different illumination positions relative to said at least one portion;

an imaging device for generating one or more images of surface topographical appearance of said at least one portion when the at least one portion is illuminated with the radiation by the source at the different illumination positions; and

a string generator that generates the string based upon, at least in part, a numerical hash value derived from the one or more images, the value being generated by a process that includes extracting from the one or more images a first image portion, scaling the first image portion to generate a scaled image portion, averaging pixel values of the scaled image portion to generate a first filtered image, extracting from the first filtered image a second image portion, averaging pixel values of the second image portion to generate a second filtered image, and subtracting corresponding pixel values of the second filtered image from the second image portion to generate a third filtered image.

62-63. (cancelled)

64. (currently amended) ~~Method according to claim 28,~~ Method for generating a string for use in determining whether a workpiece is valid, comprising:

illuminating at least one portion of the workpiece with electromagnetic radiation from different illumination positions relative to said at least one portion;

generating one or more images of surface topographical appearance of said at least one portion when the at least one portion is illuminated with the radiation at the

different illumination positions;

filtering the one or more images to produce one or more filtered images in which selected higher spatial frequencies of the one or more images are emphasized and lower frequencies are attenuated to distinguish signal components representing taller and deeper surface topographical features from noise and signal components representing shorter and shallower surface topographical features; and

generating the string based upon, at least in part, the one or more filtered images, wherein the sting is based upon, at least in part, a numerical hash value derived from the one or more filtered images, the value being generated by a process that includes extracting from the one or more images a first image portion, scaling the first image portion to generate a scaled image portion, averaging pixel values of the scaled image portion to generate a first filtered image, extracting from the first filtered image a second image portion, averaging pixel values of the second image portion to generate a second filtered image, and subtracting corresponding pixel values of the second filtered image from the second image portion to generate a third filtered image.

65-66. (cancelled)

67. (previously amended) Computer-readable memory comprising computer-executable program instructions for use in generating a string for use in determining whether a workpiece is valid, the instructions when executed causing:

illumination of at least one portion of the workpiece with electromagnetic radiation from different illumination positions relative to said at least one portion;

generation of one or more images of surface topographical appearance of said at

least one portion when the at least one portion is illuminated with the radiation at the different illumination positions; and

generation of the sting based upon, at least in part, a numerical hash value derived from the one or more images, the value being generated by a process that includes extracting from the one or more images a first image portion, scaling the first image portion to generate a scaled image portion, averaging pixel values of the scaled image portion to generate a first filtered image, extracting from the first filtered image a second image portion, averaging pixel values of the second image portion to generate a second filtered image, and subtracting corresponding pixel values of the second filtered image from the second image portion to generate a third filtered image.

68-83. (cancelled)